



## **Dark Sun – State Energy Assurance Exercise**

**June 29 – 30, 2004**

The U.S. Department of Energy hosted Dark Sun, a State Energy Assurance Exercise, on June 29 – 30, 2004 at the Camp Dawson Army Training Site in Kingwood, West Virginia. The event was co-sponsored by the National Governors Association (NGA), National Association of State Energy Officials (NASEO), National Conference of State Legislatures (NCSL), National Association of Regulatory Utility Commissioners (NARUC) and the DOE Office of Counterterrorism.

The purpose of the exercise was to focus on responding to energy disruptions that affect multiple states and that involve interdependencies within and among the critical infrastructures. Objectives of the exercise were to:

- ❑ Promote cross-sector communications and cooperation among State partners involved in energy emergency responses
- ❑ Raise awareness of energy interdependencies and their potential for short- and long-term cascading effects on other infrastructures
- ❑ Understand the impact that State and regional policies and decisions have on energy systems, interdependent systems, and the public
- ❑ Identify key operational priorities for addressing communications, coordination, resource allocation, and interdependency issues
- ❑ Provide a dynamic exercise environment to examine and enhance State Energy Assurance Plans

Approximately 135 participants from 28 States took part in Dark Sun. Exercise participants included State-level staff from energy offices, state legislatures, governors' offices, and utility commissions. Federal government participants included staff from DOE (OEA, Fossil Energy, EIA), DHS, EPA, DOT/OPS, US Coast Guard and the DOE National Laboratories.

Numerous law enforcement (FBI, Safety Alliance of Cushing) and private sector (BP, ConocoPhillips, CALISO, EEI, AZ Public Service, NiSource, AGA, NPRA, CUEA) staff also participated in Dark Sun and provided a diverse range of perspectives on energy emergency response measures.

The Dark Sun exercise was divided into a morning and afternoon session, each with a different energy event scenario. The morning session dealt with a disruption to the petroleum sector while the afternoon session involved a disruption to the electricity and natural gas sectors. Each session started with a scenario setting, in which the details of the disruption event were provided. Following the announcement of each detailed multi-state scenario, attendees were instructed to break out into groups to develop possible responses to each scenario with regards to the following key issues: policy, operations, interdependencies and public affairs.

Each breakout group was composed of a mixture of federal, state and industry representatives from different sectors of the energy infrastructure. Each group then reported back to the full group the results of their discussions. All groups stressed the need for communication across the different areas of the energy sector.

On Day Two, a workshop was held to review guidelines for preparing a State Energy Assurance Plan. The workshop provided state energy and emergency representatives with an understanding of how their States and regions respond to energy disruptions and ways to improve their current energy assurance plans. The workshop stressed the importance of preparation, accurate data collection, identifying levels of energy supply shortages, and formulating possible response and mitigation actions.

Feedback from those in attendance at the Dark Sun exercise and workshop was very positive. Suggestions during the “Hotwash Session” provided participants with the opportunity to suggest modifications or improvements for future exercises.

Recommendations included:

- Supplying additional reference data to add context to the emergency scenarios (e.g., information on energy supplies, demands, and available reserve capacities).
- Including the DHS Alert Level in the scenario. Local/state actions may be a function of the DHS Alert Level (e.g., resources may not be shared if we are at “Red”).
- Distinguishing between crisis management and consequence management actions, because a detailed scenario time line was not provided.
- Establishing smaller breakout groups, which would promote better discussion (the afternoon session was better with the sub-groups).
- Adding more industry and federal agency representation, particularly DHS.
- Outlining specific response actions.

Overall, attendees expressed that exercises like Dark Sun are critical to promoting state and federal energy assurance preparedness. The Office of Energy Assurance will continue to work with state organizations (NASEO, NARUC, NGA and NCSL) to facilitate state energy assurance planning and to organize future training exercises.

The summaries of both the emergency scenarios are attached as well as the complete PowerPoint presentations created by the break out groups.

# **Morning Scenario**

## **Petroleum Disruption**

- Terrorist Bombing at U.S. Petroleum Refinery
  - Attack on Bryan Mound Terminal of the Strategic Petroleum Reserve
- Attack on Cushing, OK Crude Oil Terminal

# *Petroleum Disruption*

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## *Breakout Session Summary: Blue Group (Operations)*



# ***Petroleum Disruption***

## ***Primary Operations Questions***

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**How will the expected energy supply shortfall impact your jurisdiction?**

- In the short term (days, weeks)**
  - Station & terminal shut-downs to protect the resource (concern over attacks on other elements of the infrastructure in absence of shared intelligence)**
  - Port restoration viewed critical**
- In the longer term (months, year)**
  - Limited ability to change physical structure to meet current demand**
    - 18 to 24 months before price reductions**
  - Other fuels price increase (fuel switching)**
  - Economic impacts (airlines, goods shipment)**
  - Port restoration viewed critical**



# ***Petroleum Disruption***

## ***Primary Operations Questions***

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**What are the workaround possibilities to increase supply while the system is being restored?**

- **Consumption Must Decline**
  - Demand reduction
  - Calls for conservation
  - Public education
  - Customer adjustment in the long(er) term due to price mechanisms
- **Production Must Increase (elsewhere)**
  - Allow flexibility in movement of fuels (EPA, Jones Act)
  - Driver hours' waivers
  - Dual fuel encouragement
  - Develop restoration of Port Ops
  - Prioritize refined products importations
  - (longer term, lower probability) Obtain refinery capacity elsewhere (especially overseas)
  - (longer term, lower probability) Obtain shipment capability



# *Petroleum Disruption*

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## *Breakout Session Summary: Green Group (Interdependencies)*



# ***Petroleum Disruption Questions for All Groups***

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**What is the chain of command in your jurisdiction for managing the situation?**

- ***Assumption: We are representing state level***
- ***State energy office/other appropriate agency convenes committee to advise governor***
- ***Likely - recommend governor goes to state of emergency, if not already declared at federal level.***
  - ***Protection of further existing infrastructure facilities – coordinate with national guard. Local first-responders on alert. Control highways/roads.***
  - ***PUC requests petroleum institute/utilities provide estimates of shortfall***
  - ***Mitigation - Can limit gasoline consumption / purchase on alternate days***



# ***Petroleum Disruption Questions for All Groups***

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**What additional information do you need to deal with the situation? Where will it come from? How will you get it?**

- ***How will the impacts be estimated.***
- ***We have a structure in place, data acquisition/analysis programs are variable among states.***
- ***EIA***



# ***Petroleum Disruption***

## ***Primary Interdependencies Questions (1)***

What other infrastructures (e.g., transportation, electric power, industrial base, agriculture) will see effects from the petroleum disruption? What are these effects? How serious are they?

- *Effects are short term, long term, local, regional, national.*
- *Short term effects will depend upon coast guard/national alert level*
- *Pricing will change – may be up to 50% increase. Effects will permeate throughout economy.*
  - *Heating oil pricing next winter.*
  - *Transportation*
  - *Food (Fertilizer industries)*
  - *Supply shortages – spoilage of produce that can't be shipped*
  - *Tourism*
- *Psychological effects – cancellations, tourism industry, international*
- *Energy Repercussions*
  - *Nuclear energy industry to displace oil use.*
  - *Coal transportation impacted.*
  - *E.g., Hawaii highly dependent upon oil for power generation*



# *Petroleum Disruption*

## *Primary Interdependencies Questions (2)*

What priorities should be given to dealing with the effects on other infrastructures?

- **Prioritization**
  - **Public Health/Safety**
    - Hospitals, water treatment, electric utilities. State emergency supplies exist. Low income assistance
    - General public
  - **National Security**
  - **Economic Security**
- **Jurisdiction Interactions**
  - Core groups from key orgs/agencies (state, industry, military, interdependent industries) will be coordinating with their customers, with one another.
  - OEA EEAC, API (Amer. Petroleum Institute)
- **Options**
  - **Conservation measures,**
    - Rolling blackouts
    - Public appeals – car pooling, thermostats
    - Rationing
    - Speed limits
  - **SPR – Requires presidential order for drawdown. May be of limited value due to transmission, rather than supply issues.**
  - **Boutique fuel situation limits substitution strategies, alter local standards.**



# *Petroleum Disruption*

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## *Breakout Session Summary:*

### *Yellow Group (Policy)*



# ***Petroleum Disruption Questions for All Groups***

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**What is the chain of command in your jurisdiction for managing the situation?**

- ***Governor***
- ***SEMA/FEMA Operations***
- ***Local law enforcement (FBI, state patrol, Coast Guard)***
- ***Local governments***



# ***Petroleum Disruption***

## ***Questions for All Groups***

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**What additional information do you need to deal with the situation? Where will it come from? How will you get it?**

- **Critical information**
  - **When will ports be opened**
  - **When will restoration begin**
- **Understanding of market structure**
  - **What industries in what areas will be affected by different decisions**
  - **This would come from private industry as well as government**



# ***Petroleum Disruption***

## ***Questions for All Groups***

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**How will you communicate and coordinate with other jurisdictions (federal, state, local) and the industry in managing the situation?**

- **FEMA/Homeland security would coordinate the management**
- **Agencies would aid in interstate information sharing**
- **Local law enforcement organizations would handle local coordination**
- **The creation of a set of systems to use in implementation is underway**
  - **Guidebooks for states to use**
  - **National Infrastructure Protection Plan to aid in federal communication and planning**
  - **States are practicing and planning for coordination plans**



# ***Petroleum Disruption***

## ***Primary Policy Questions***

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**How do State energy emergency plans address this situation?**

- **Most states have an energy department or similar mechanism to deal with a situation should it arise.**
  - Management groups and advisory panels
  - Set-aside plans for critical response
  - Anti-gouging statutes or practices
  - Use of price to curtail demand
  - Change in state security threat to red level
- **Mutual agreements between states**
  - Northeast states security advisors consortium
  - Midwest Agriculture states consortium
  - National Emergency Management Assistance Compact (EMAC)
- **Potential issues**
  - Without assurance that attacks were over, states would be reluctant to send supply away
- **How will environmental issues be resolved**
  - Plans exist ranging from notification to full evacuation
  - EPA would be at the site quickly



# ***Petroleum Disruption***

## ***Primary Policy Questions***

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**What is the Federal role in dealing with the situation? What are the Federal options?**

- **Federal Role**
  - EPA and FEMA/Homeland Security immediately involved
  - Department of Energy will be involved in recovery planning
  - Change to red security threat level
  - Department of Justice
  - Coast Guard would assess waterway security
  - Agencies would aid in Information Sharing between the states
  - National laboratories would be consulted to determine short and long term market effects and information
- **Federal Options**
  - Shift in threat level to red
    - Although could interfere with recovery if at a national level
    - Could shift at a state level in affected areas
  - Declaration of Federal State of Emergency
    - Allows for a chance to pause and assess impact
    - Gets homeland security offices up and running

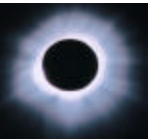


# *Petroleum Disruption*

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*Breakout Session Summary:*

*Red Group (Public Affairs)*



# ***Petroleum Disruption Questions for All Groups***

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**What is the chain of command in your jurisdiction for managing the situation?**

- **DOE will activate its Emergency Operations Center, which provides one pathway for Federal Agencies to feed information to state agencies**
- **In California, will activate joint operations communications center. Information in final analysis will be coming from the governor's office would come from the state office, with a single message**
- **Often, information would be starting at local level, and then work their way up.**



# ***Petroleum Disruption Questions for All Groups***

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**What additional information do you need to deal with the situation? Where will it come from? How will you get it?**

- **First, the information needed to assure the public, then act to respond, e.g., do we need threat level increase?**
- **There are real regional impacts over supply. Information on how to address regional equity.**
- **Governor's office would be providing guidance and support.**
- **Set up a joint information center.**



# ***Petroleum Disruption***

## ***Primary Public Affairs Questions***

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**How will information be communicated to the public regarding the situation? Who will be the primary source of information for the public?**

- **Set up the Emergency Operations Center -- Clearinghouse from DOE operations OEA would be their start**
- **Energy Information Agency – Day or two for situational information. Congressional inquiry information about what the situation would mean**
- **Who will speak for the incident – Operations center, Governor's Office, Public Utility Commissions coordinated through a joint information center. Important to have a single message. Need for a common clearinghouse**



# ***Petroleum Disruption***

## ***Primary Public Affairs Questions***

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**What information will be made available? What should be withheld?**

- ***First, the information needed to assure the public, then act to respond, e.g., do we need threat level increase?***
- ***Public Utilities Commissions would be in contact with the public***
- ***There are really regional impacts over supply. Governor's office would be providing guidance and support coordinated through a joint communications center***
- ***Steadfastly resist releasing any pricing projections, no prediction of the price activities***
- ***Past lessons from disruptions, the markets are really volatile***



# **Afternoon Scenario Electricity & Natural Gas Disruption**

- Terrorist Strike on a Critical DC Transmission Line Serving Southern California
- Attack on Natural Gas Compressor Station Serving California

# *Electricity/Natural Gas Disruption*

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*Breakout Session Summary:*

*Blue Group*



# ***Electricity/Natural Gas Disruption Questions for All Groups***

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**What is the chain of command in your jurisdiction for managing the situation?**

- **CAL Iso – Executive in Charge walking the floor –**
- **Starts at the local community level – through SEMA/DHS/FEMA (other federal agencies) to minimize usage as well as security**
- **Ultimate responsibility within the Governor's office – information for conservation**
- **Utilities responsible to get the system restored**
- **Gas-electric collaboration to minimize the need for rolling blackouts**



# *Electricity/Natural Gas Disruption*

## *Questions for All Groups*

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**What additional information do you need to deal with the situation? Where will it come from? How will you get it?**

- *Rolling blackouts need to be forewarned by a couple of hours*
- *Identity of interruptible customers*
- *Information network for materials needed for restoration*
- *Federal guidance*



# *Electricity/Natural Gas Disruption*

## *Questions for All Groups*

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**What will be the effects outside California? How will management of these be coordinated?**

- *Natural Gas outage would become generally a Southwest regional problem*
- *Power plants in the Western Grid would be immediately impacted*
- *National impacts on gas supply, agriculture, manufacturing, refinery output in the LA basin (water)*
- *Coordination on a national, state, and local basis*
- *Security issues need coordination*
- *Pricing issues need coordination*



# *Electricity/Natural Gas Disruption*

## *Primary Operations Questions*

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How will the expected energy supply shortfall impact your jurisdiction?

- In the short term (days, weeks)?
  - In the longer term (months, year)?
- *In short term, restoration time (intertie repair) may be as short as two to three weeks and demand will start to drop in 4-6 weeks*
  - *Longer term shortfall will be the Natural Gas shortfall*
  - *Coordinate with other utilities to get additional power as available*
  - *Work with government on collaboration strategies*



# ***Electricity/Natural Gas Disruption Primary Operations Questions***

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**What priorities should be given to restoring gas and electric service as supplies become available? How do you work with the gas and electric companies to implement these priorities?**

- ***Priorities should be used to minimize blackouts***
- ***Demand should be decreasing as time progresses through the Fall months***
- ***Electrical priorities would be using existing rules and protocols***
- ***Workarounds include workforce and school hour shifting***



# ***Electricity/Natural Gas Disruption Primary Interdependencies Questions***

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**What other infrastructures (e.g., transportation, petroleum production and refining, industrial base, water supply, agriculture) will see effects from the electricity and natural gas disruption? What are these effects? How serious are they?**

- ***Tourism will be impacted – some***
- ***Irrigation will be impacted – some***
- ***Regional impacts on most infrastructure sectors ( national impact not as extensive as this morning's scenario)***



# ***Electricity/Natural Gas Disruption Primary Interdependencies Questions***

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**What priorities should be given to dealing with the effects on other infrastructures?**

- ***Transportation (tourism, economic sector, generator fuel), agriculture***
- ***Priorities based on life safety issues, initially (water supply, agriculture, petroleum production, telecommunication)***
- ***Gas supplies are more critical than electricity to mitigating these interdependencies***



# *Electricity/Natural Gas Disruption*

## *Primary Policy Questions*

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**How do State energy emergency plans address this situation?**

- ***Energy supply disruptions are covered in existing state emergency plans.***
- ***Activation of State Emergency Operations Center***
  - ***Focal point for communications, crime scene investigation***
  - ***Direct involvement with affected utility companies***
    - ***Provide input to curtailment strategies, restoration issues, etc.***
      - ***For example, because of the impact to the electricity grid, and the time of the year, the “standard” gas curtailment strategy could be modified to include additional gas supply to the electricity generators***
    - ***Mutual assistance programs (utilities), mutual aid programs (government)***
    - ***Facilitate repair operations (e.g., transportation permit exemptions)***
    - ***Operational waivers (e.g., emission waivers)***
    - ***Contractual issues, or other financial implications (long-term reimbursement)***
  - ***Evaluation of impacts on other sectors, prioritize resources***
  - ***Provide advice to the Governor regarding curtailment strategies***
  - ***Provides Federal liaison***
- ***There is extensive experience with natural disasters, less experience with terrorism events***
  - ***The authorities have less time to react before the population will demand action***



# ***Electricity/Natural Gas Disruption Primary Policy Questions***

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**How do State energy emergency plans address this situation?**

- **Open an emergency operations center – help facilitate restoration**
- **Provide strategies, such as load shedding**
- **Synchronization of efforts for restoration**
- **Mutual aid agreements**
- **Waivers of environmental permit conditions under emergency conditions**
- **Breaking of contracts under emergency conditions**
- **Prioritization of areas for restoration**
- **Provide Governor with a curtailment strategy**



# ***Electricity/Natural Gas Disruption***

## ***Primary Policy Questions***

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**What is the Federal role in dealing with the situation? What are the Federal options?**

- ***Approach:***
  - ***Local -> County -> State -> Federal***
- ***When a disaster declaration has been proclaimed:***
  - ***Bring in FEMA and other Federal support in coordination with State and other officials***
    - ***ESF-1: Transportation (to bring in anything that you need)***
    - ***ESF-11: Environmental – for relief of Federal air emissions standards***
    - ***ESF-12: Department of Energy***
- ***Primary focus: communications, coordination***
- ***Federal role in the crime scene investigation – FBI***
  - ***Concern is potential impact on the repair and restoration process***



# ***Electricity/Natural Gas Disruption***

## ***Primary Policy Questions***

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**What is the Federal role in dealing with the situation? What are the Federal options?**

- **NERC and regional hotlines**
- **Physical assets not available to the state and local responders can be supplied by federal players**
- **Federal environmental regulations may require waiving in an emergency situation**
- **Inter-regional coordination**
- **Hurry-up on releasing the crime scenes**



# ***Electricity/Natural Gas Disruption Primary Public Affairs Questions***

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**How will information be communicated to the public regarding the situation? Who will be the primary source of information for the public?**

- ***Checklist of public officials***
- ***Internet sources of information outside the California region (EIA, California sources, etc) – automated phone and internet information system***
- ***When can you expect service restoration***
- ***All information is made available as soon as known, except for vulnerability information –News media briefing room for extended events***
- ***Individual utilities may respond individually, but gradually coordinate with state offices***
- ***TVA templates for news releases and for requests to utilities***
- ***Joint communications center***



# ***Electricity/Natural Gas Disruption Primary Public Affairs Questions***

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**What information will be made available? What should be withheld?**

- ***Seven day patience level for natural disasters***
- ***Checklist of public officials***
- ***Internet sources of information outside the California region (EIA, California sources, etc) – automated phone and internet information system***
- ***When can you expect service restoration***
- ***All information is made available as soon as known, except for vulnerability information –News media briefing room for extended events***

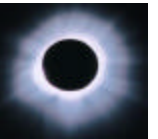


# *Electricity/Natural Gas Disruption*

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## *Breakout Session Summary:*

### *Green Group*



# *Electricity/Natural Gas Disruption*

## *Primary Operations Questions*

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How will the expected energy supply shortfall impact your jurisdiction?

- In the short term (days, weeks)?
- In the longer term (months, year)?
- *At the NATIONAL level – short term impact will be a rise in energy prices based on perception*
- *At the California level:*
  - *Near Term:*
    - *Rolling blackouts during peak load periods*
    - *Curtailment of natural gas customers*
    - *Loss of electric cogeneration from industrial customers*
  - *Long Term:*
    - *Depleted natural gas storage will result in winter season shortages and curtailment of customers*



# ***Electricity/Natural Gas Disruption Primary Operations Questions***

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**What priorities should be given to restoring gas and electric service as supplies become available? How do you work with the gas and electric companies to implement these priorities?**

- **Natural gas and electric power restoration will follow curtailment plans built into customer's tariffs (unless other authorities are imposed)**



# *Electricity/Natural Gas Disruption Other Operations Questions*

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- **Immediate Emergency Management**
  - Rolling blackouts
  - Repairs to gas pipelines within 5 days
  - Request to FERC to operate lines above MAOP to increase volume flow
  - Environmental Waivers (Gasoline and Power Plant emissions)
- **Workaround Possibilities**
  - Send gas “free flowing” without compression
  - Portable compression from pipeline companies



# ***Electricity/Natural Gas Disruption Primary Interdependencies Questions***

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**What other infrastructures (e.g., transportation, petroleum production and refining, industrial base, water supply, agriculture) will see effects from the electricity and natural gas disruption? What are these effects? How serious are they?**

- **Water (Fresh & Wastewater)**
- **Transportation - Rail, Electrified public transportation, Air (only incoming traffic), street traffic disrupted**
- **Telecommunications – Internet and Cell Phones**
- **Refineries**
- **Food Supply – Refrigeration and Disposal**
- **Air Conditioning**
- **Basic Business Transactions**
- **Crop Irrigation**
- **Loss of Demand – both electricity and gas supplies will lose a major customer**



# ***Electricity/Natural Gas Disruption Primary Interdependencies Questions***

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**What priorities should be given to dealing with the effects on other infrastructures?**

- 1. Water and Wastewater Treatment Facilities; Hospitals; First Responders**
- 2. Transportation – Rail and truck traffic to move food, water and first responders**
- 3. Petroleum Product Supply**



# ***Electricity/Natural Gas Disruption Primary Public Affairs Questions***

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**How will information be communicated to the public regarding the situation? Who will be the primary source of information for the public?**

- ***Establish Joint Information Center (mayors, city executives, emergency operations)***
- ***Governor and or President to address the public***
- ***More information needed on Duration of rolling blackout***
  - ***Public message is different with 4 hour blackouts and 8-10+ hour blackouts***



# *Electricity/Natural Gas Disruption*

## *Primary Public Affairs Questions*

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**What information will be made available? What should be withheld?**

- *State-wide generic information (e.g. length of blackouts)*
- *Utility-specific information (e.g. exact areas affected by blackout and at what times)*
- *Only some security specific information should be withheld.*  
*The major*



# *Electricity/Natural Gas Disruption*

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## *Breakout Session Summary:*

### *Yellow Group*



# ***Electricity/Natural Gas Disruption Primary Operations Questions***

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**How will the expected energy supply shortfall impact your jurisdiction?**

- **In the short term (days, weeks)?**
- **In the longer term (months, year)?**

- **Short-term**

- **In the short-term, dealing with FEMA and taking care of health and safety issues**
  - **generators made available when needed**
  - **scheduling system**
- **Daily operational meetings at state and operational levels**
  - **coordination with power utilities**
  - **input of generators**
- **Companies tap mutual aid agreements to bring in additional resources with FEMA**
- **Messages communicated in a coordinated way**
- **Public/private sector working together on long term recovery strategy and jointly mobilizing recovery resources (distributed generators and portable compressors)**



# ***Electricity/Natural Gas Disruption***

## ***Primary Interdependencies Questions***

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**What other infrastructures (e.g., transportation, petroleum production and refining, industrial base, water supply, agriculture) will see effects from the electricity and natural gas disruption? What are these effects? How serious are they?**

**– Other Infrastructures**

- **High population areas – no margin (meeting exactly the load), refineries down, increased demand for distributed energy, water distribution and treatment effected, agriculture effected – which then effects agricultural exports (increased produce prices), traffic signals effected, emergency services effected, telecommunications**

**– What are these effects?**

- **Depends on back-up power capacity and fuel supply and will become more serious as time goes by, increase back-up power (diesel generators) leads to exceeding local, state and EPA emissions standards**
- **Flow of goods into the US is effected (Port of Long Beach)**
- **E-Commerce servers effected**



# ***Electricity/Natural Gas Disruption Primary Interdependencies Questions***

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**What priorities should be given to dealing with the effects on other infrastructures?**

- Emergency services, health services top priority**
- Keep refineries going to feed back-up power**
- Ensure back-up power to water distribution and treatment systems**
- Other Considerations**
  - Ensure E-Commerce services are functioning**
  - Ensure imported products flow through the area**
  - Ensure that critical transportation functions**
  - “Do not touch list” – California**



# ***Electricity/Natural Gas Disruption***

## ***Primary Policy Questions***

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**How do State energy emergency plans address this situation? What is the Federal role in dealing with the situation? What are the Federal options?**

- **Establish EOC including the CA Energy Commission, FEMA**
- **Establish Energy Emergency**
- **Set Rolling Blackouts**
- **Establish critical infrastructure set asides**
- **Coordinate with FERC to set aside natural gas**
- **Look at mutual aid allocations with FERC**
- **The state would need to waive EPA rules to burn dual use fuels**
- **Ask for mandatory Energy Conservation Measures**
- **Close municipal pools/ close schools**
- **Utilize DO NOT INTERRUPT LIST**



# ***Electricity/Natural Gas Disruption Primary Public Affairs Questions***

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**How will information be communicated to the public regarding the situation? Who will be the primary source of information for the public?**

**– Communication – Bilingual**

- Radio, television, hand-held radios (local governments distribute), emergency broadcast messages, service organization, broadcast trucks with a PA system, Internet posting (local utility, news media websites)...longer term – newspapers, local assistance centers

**– Primary Source**

- Joint Information Centers (at least once a day briefings that would coordinate a consistent flow of information)
  - Status of power – utilities
  - Health and public safety – health departments, Red Cross



# ***Electricity/Natural Gas Disruption Primary Public Affairs Questions***

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**What information will be made available? What should be withheld?**

**– Available Information**

- Extent of situation
- Impacts to the public
- Where to go for help – assistance centers
- Timing of outages – rolling blackout information
- Do and Don't Lists (general safety advisory) - Don't be a hero!
- Be vigilant

**– Withhold information?**

- Pass along information from joint message and refer other questions to appropriate agency or representative



# *Electricity/Natural Gas Disruption*

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*Breakout Session Summary:*

*Red Group*



# *Electricity/Natural Gas Disruption*

## *Questions for All Groups*

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What is the chain of command in your jurisdiction for managing the situation?

- *Governor / for declaration of state of emergency*
  - *Other infrastructures impacted would report to governor*
  - *Federal assistance would be requested as needed.*



# *Electricity/Natural Gas Disruption*

## *Questions for All Groups*

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**What additional information do you need to deal with the situation? Where will it come from? How will you get it?**

- ***Industries –***
  - ***How many days of gas storage are available***
  - ***What impact will this occurrence have on storage supplies***
  - ***What new generation (plants, renewables, etc.) will come on line in near future?***



# ***Electricity/Natural Gas Disruption Questions for All Groups***

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**What will be the effects outside California? How will management of these be coordinated?**

- ***Economic impacts: Agriculture, industrial production and manufacturing***
- ***Stored gas not available for winter use elsewhere***
- ***Lower electricity and gas reserves throughout U.S.***



# ***Electricity/Natural Gas Disruption Primary Operations Questions***

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**How will the expected energy supply shortfall impact your jurisdiction?**

- *In the short term (days, weeks)?***
  - *Gather real-time information on impacts short term from calls coming in regarding outages***
  - *Scenario suggests a figure for short term of 4% leading to 1.4M without power***
  - *Should be able to manage at least 1% with load control***
  - *Food supply problems***
    - *Perishables***
- *In the longer term (months, year)?***
  - *Long term shortfall stated in the scenario is 1Bcf***
  - *Gas supply a problem for longer term***
  - *No winter gas storage because of diversion to current incident***
    - *Home heating concerns?***



# ***Electricity/Natural Gas Disruption Primary Operations Questions***

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**What priorities should be given to restoring gas and electric service as supplies become available? How do you work with the gas and electric companies to implement these priorities?**

- ***Electricity is a first priority***
  - ***FAA***
  - ***Hospitals***
    - ***Coordinate backup generator supply***
  - ***Water and sewage***
  - ***Prioritize plants based on service impact***
- ***Gas***
  - ***Electric generation consumption is first priority for restoration of gas service***
  - ***Review who may have gas-supplied backup generators***



# *Electricity/Natural Gas Disruption*

## *Primary Operations Questions*

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What priorities should be given to restoring gas and electric service as supplies become available? How do you work with the gas and electric companies to implement these priorities? – Mitigation Strategies

- *Rolling black/brown-outs*
  - *By segment*
    - *Industrial*
      - *Shorten hours*
    - *Residential*
- *National resource commitment to rapid reconstruction*
- *Put temporary compressors and pipelines from bypass*
- *Public appeals/incentives*
- *Rate pricing policies*
- *Declaration of emergency*
- *Security measures based on hazard/vulnerability analyses for subsequent attack scenarios*
- *Fuel switching (for dual use power generation stations)*
- *Look to northern grids*
- *Gas*
  - *Find spare pumps and spare generators*
  - *Supply electric generators*
    - *Coordinate with electrics co to determine priorities re service areas*
- *Portable generators?*
- *Bring in military personnel to help with reconstruction*
- *Spot power generators from industry or military*
- *Use ports to bring in natural gas tankers?*



# ***Electricity/Natural Gas Disruption Primary Operations Questions***

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**What priorities should be given to restoring gas and electric service as supplies become available? How do you work with the gas and electric companies to implement these priorities? – Policies**

- ***Mutual assistance compacts between states and other jurisdictions***
- ***ESF-12 defines state interactions with federal government***
- ***For facilities that have existing contracts, arrangements to facilitate fuel redistribution***
  - ***Suspension of contracts***
  - ***Compensation/ incentive arrangements***
- ***Special production and distribution arrangements with energy providers***
- ***Pricing policies***
- ***Air quality waivers for fuel switching options***



# *Electricity/Natural Gas Disruption*

## *Primary Interdependencies Questions*

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What other infrastructures (e.g., transportation, petroleum production and refining, industrial base, water supply, agriculture) will see effects from the electricity and natural gas disruption? What are these effects? How serious are they?

- *All critical infrastructures will be affected.*
- *Short term*
  - *Transportation – power to gas pumps, traffic lights*
  - *Ports/cranes – affected*
  - *Residential customers affected*
  - *Agriculture – irrigation issues*
  - *Health and Safety issues*
  - *Economic impacts – retail sales*
- *Long term*
  - *Transportation – Not severely affected*
  - *Industrial base – Not severely affected*
  - *Water supply – Not severely affected*
  - *Agriculture – irrigation/production issues*
  - *Health and Safety issues*
  - *Economic impacts – exports (to other states) - industrial, agricultural*



# *Electricity/Natural Gas Disruption*

## *Primary Policy Questions*

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***How do State energy emergency plans address this situation?***

- ***Plans should be updated every two years.***
  - ***Must have regional perspective / potentially have regional plans***
  - ***Who should be exempt from rolling blackouts/rationing***
  - ***Updates should be based on exercises/exercise results.***
  - ***State plans should be reviewed to ensure that all states address all relevant issues; state efforts are coordinated.***
  - ***Chains of command defined for different types of energy emergencies.***
  - ***Response actions / responsibilities defined (e.g., red cross, dept education, state PUC, DOT, emergency services, national guard)***
  - ***Prioritization of power usage***
    - ***Restoration of power / Care of citizens / Public health***
- ***States should promote energy conservation – immediate priority***



# *Electricity/Natural Gas Disruption*

## *Primary Policy Questions*

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**What is the Federal role in dealing with the situation? What are the Federal options?**

- *US DOE will act under its own plans*
- *Regionalizing*
  - *Promoting regional cooperation*
  - *Assisting in developing regional energy emergency plans.*
- *Uniform statutes among states that dictate alternative energy backup requirements for critical functions and facilities.*
- *Statute that would require and protect commercial information that would be vital to emergency response.*



# ***Electricity/Natural Gas Disruption***

## ***Primary Public Affairs Questions***

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**How will information be communicated to the public regarding the situation? Who will be the primary source of information for the public?**

- ***State Emergency Agency – coordinate w/ governor's office and utility response***
- ***Variability - e.g., in Texas, a county judge would be the most likely communications source***
- ***Federal level – Principal Federal Officer will also have a response coordinated with state/local authorities***
- ***Trusted Agent – person of authority / knowledgeable to provide information in press conference-type situation. (Rudy factor)***



# ***Electricity/Natural Gas Disruption Primary Public Affairs Questions***

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***What information will be made available? What should be withheld?***

- ***Provide:***
  - ***What happened, provide honest assessment***
  - ***Currently responding to incident***
  - ***Remediation will be ASAP***
  - ***Investigation is proceeding, this includes closing additional identified critical infrastructure vulnerabilities***
  - ***Public action: request for conservation***
- ***Withhold:***
  - ***Don't speculate***

